FIG.1
PRIOR ART

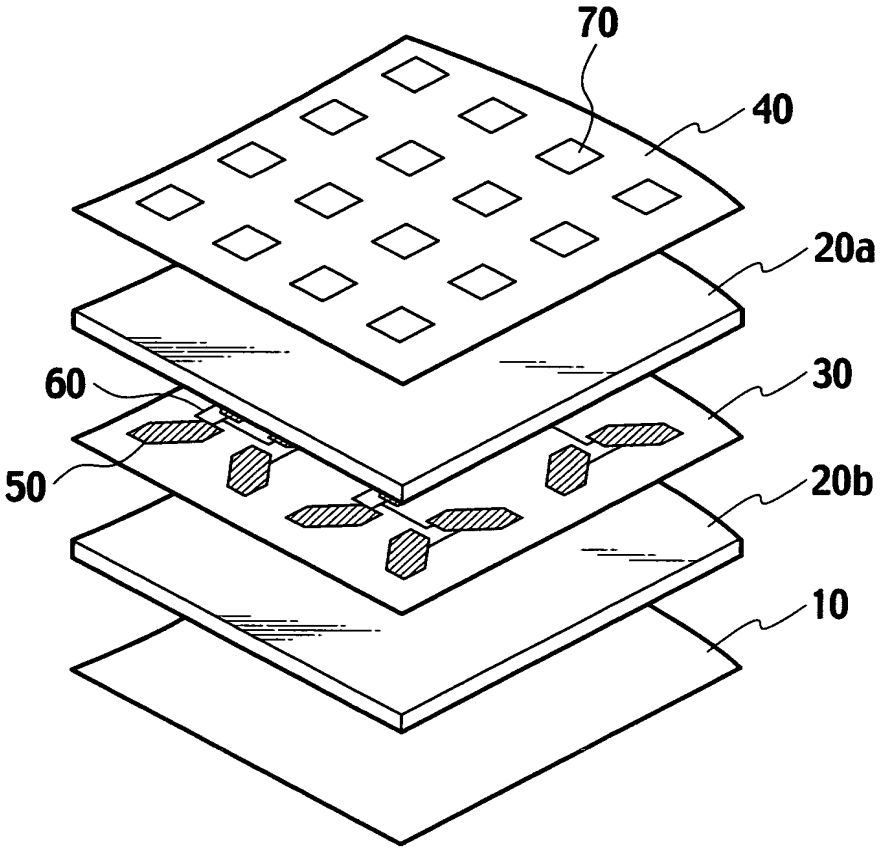


FIG.2
PRIOR ART

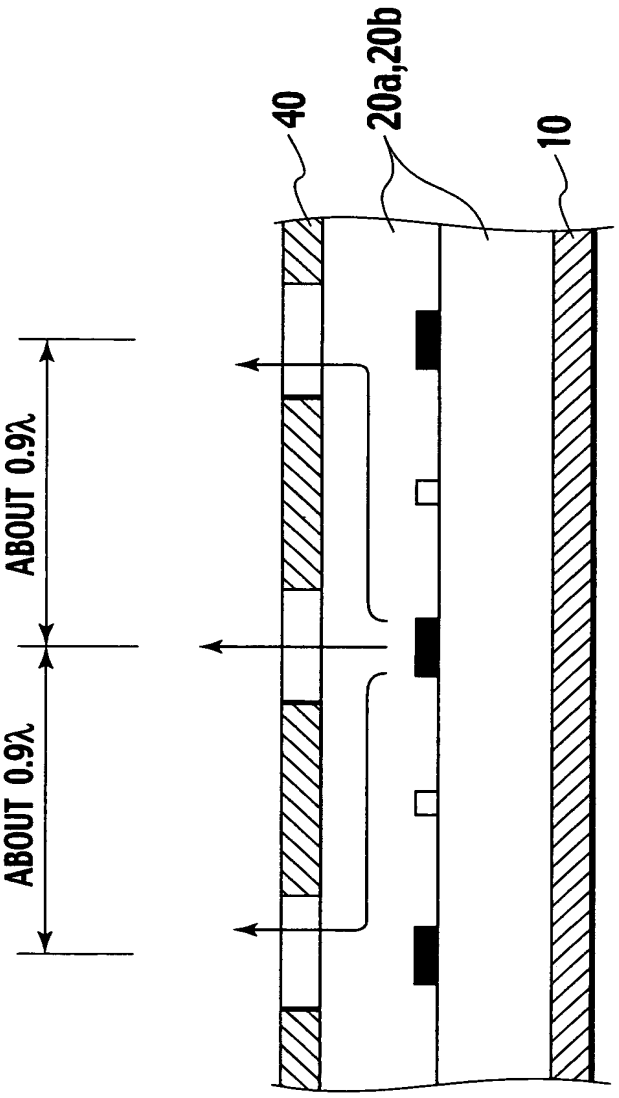


FIG.3
PRIOR ART

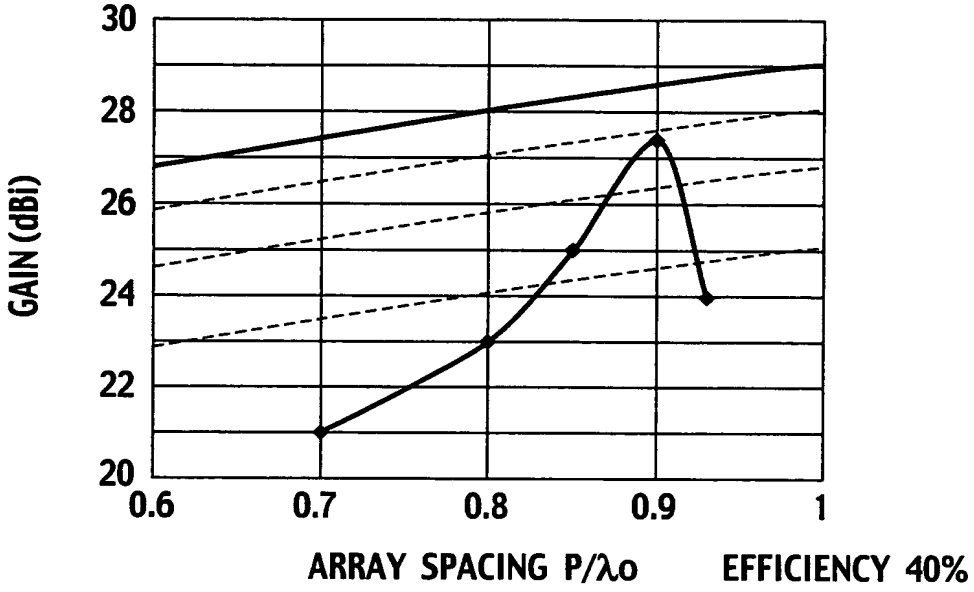


FIG.4
PRIOR ART

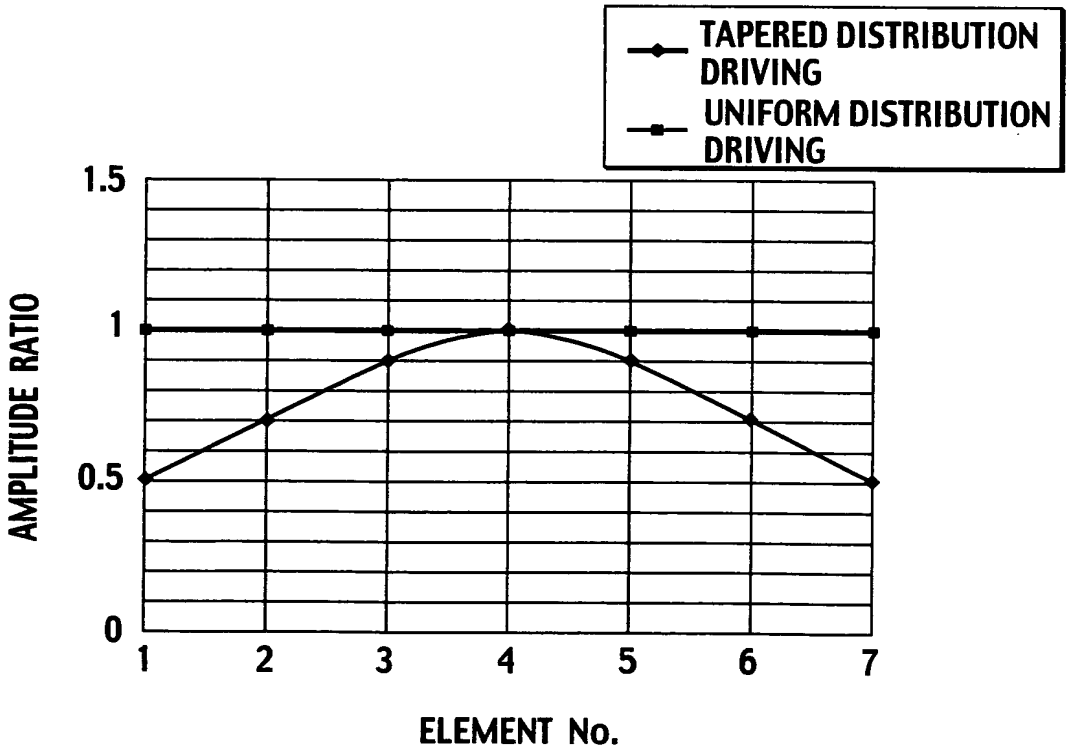


FIG.5
PRIOR ART

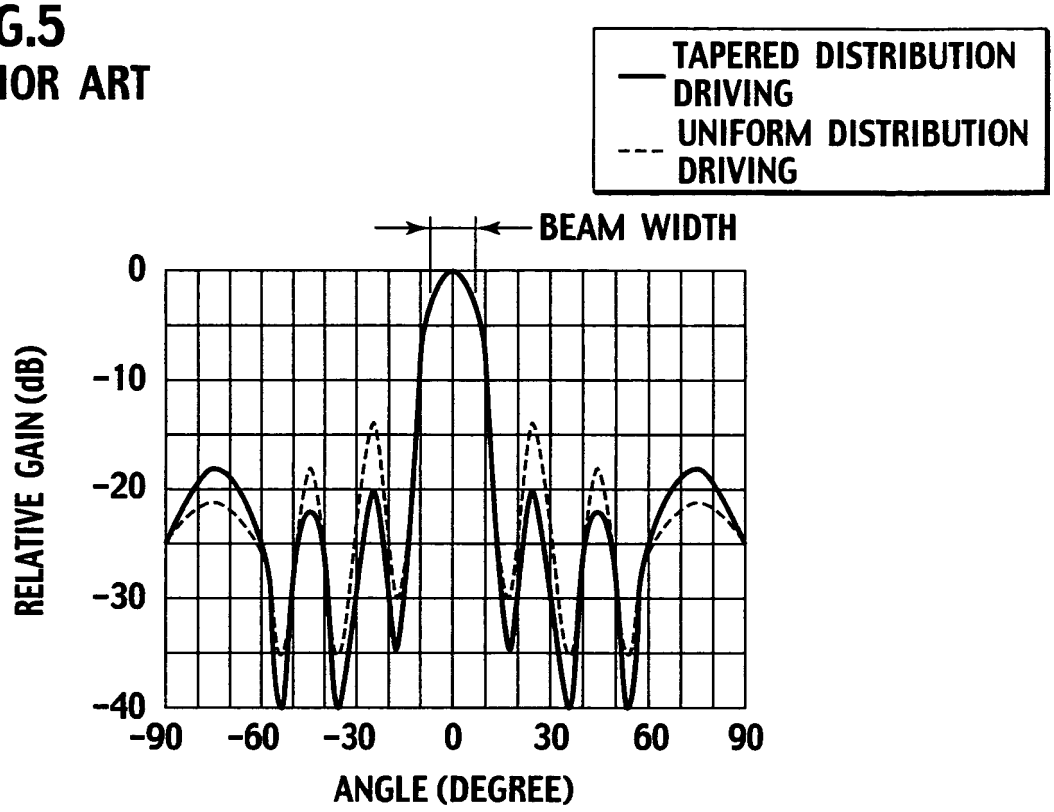


FIG.6
PRIOR ART

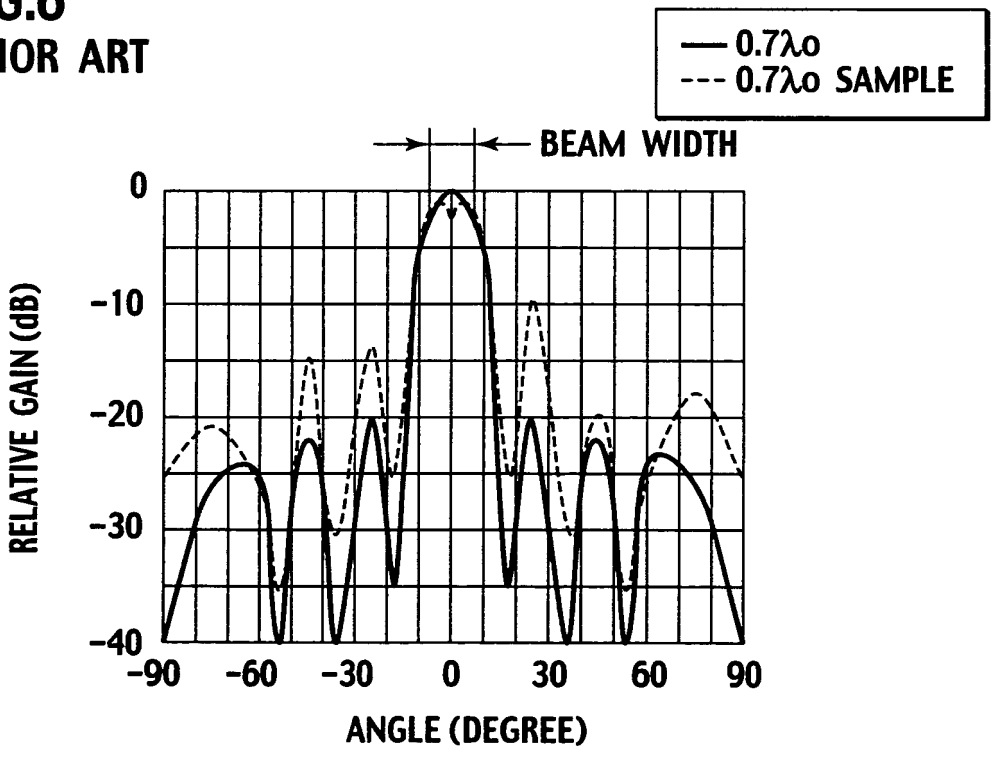


FIG.7A

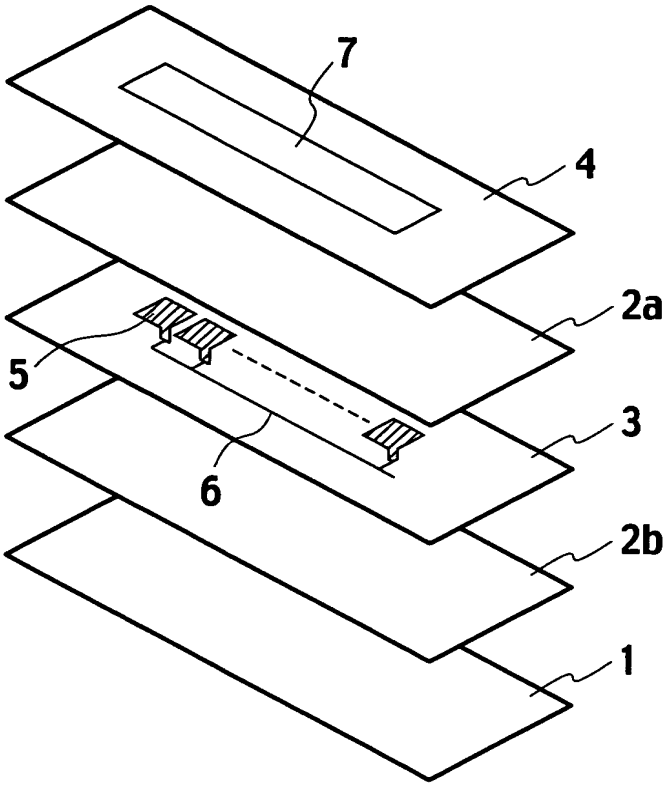


FIG.7B

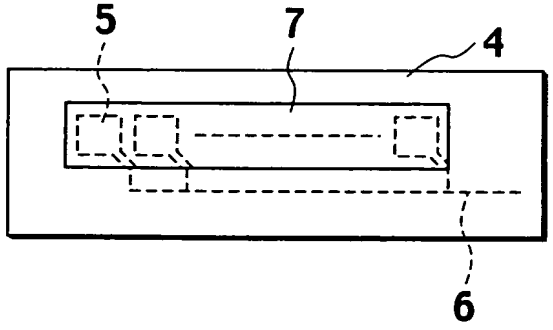


FIG.8

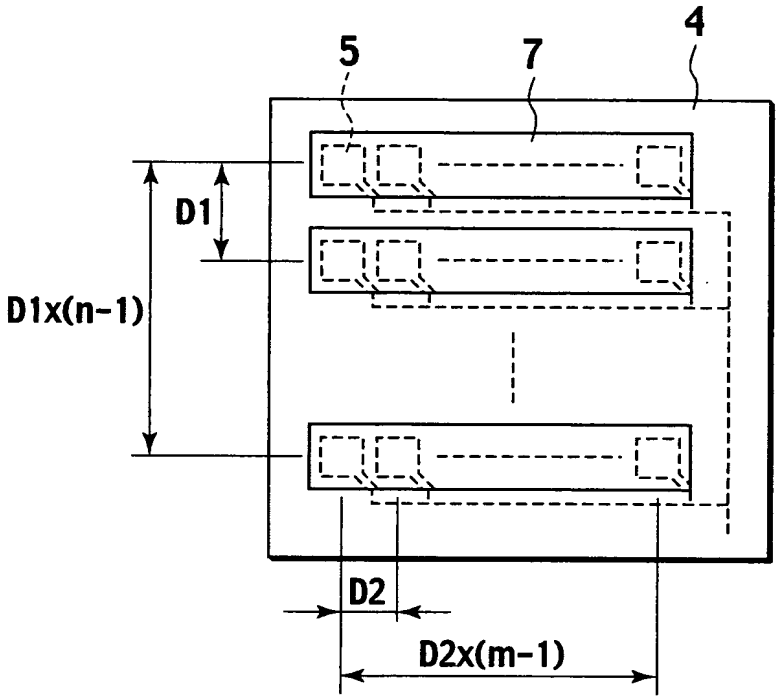


FIG.9

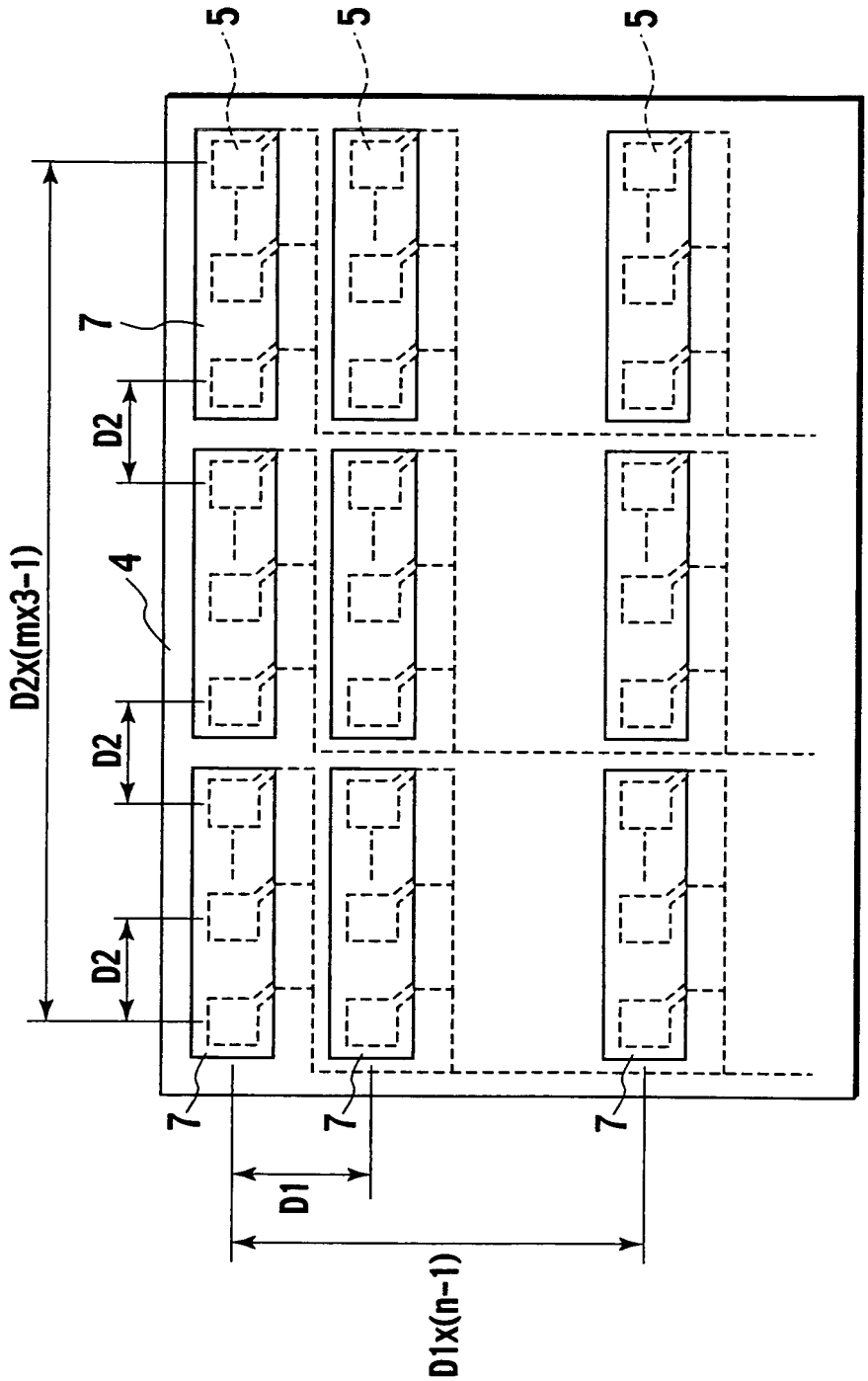


FIG.10

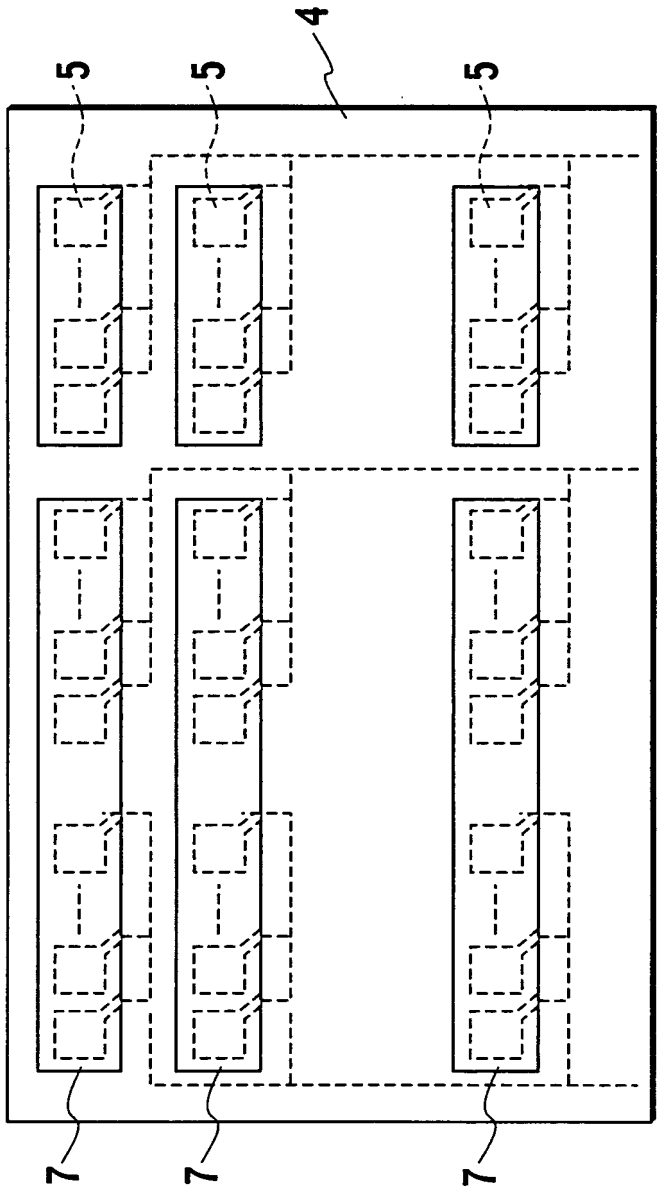


FIG.11

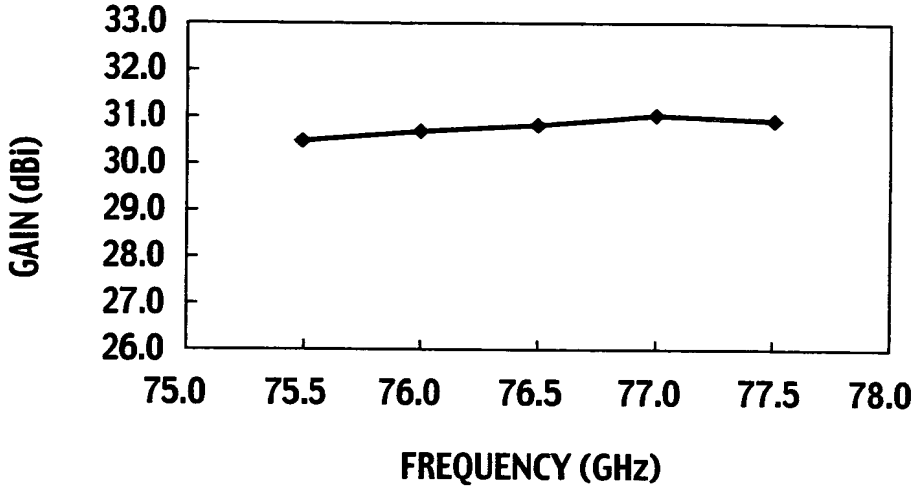

33.0
32.0
31.0
30.0
29.0
28.0
27.0
26.0
GAIN (dBi)
75.0
75.5
76.0
76.5
77.0
77.5
78.0
FREQUENCY (GHz)

FIG.12

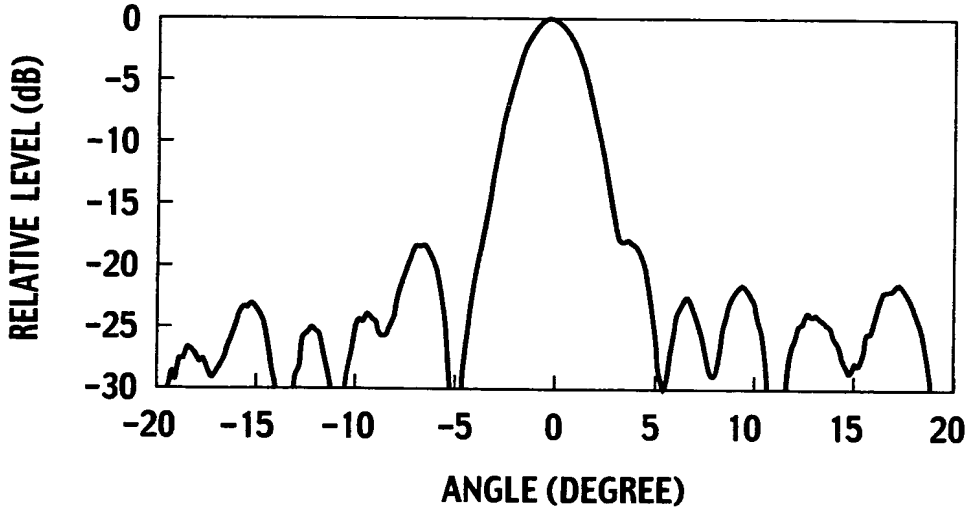

0
-5
-10
-15
-20
-25
-30
RELATIVE LEVEL (dB)
-20
-15
-10
-5
0
5
10
15
20
ANGLE (DEGREE)

FIG.13

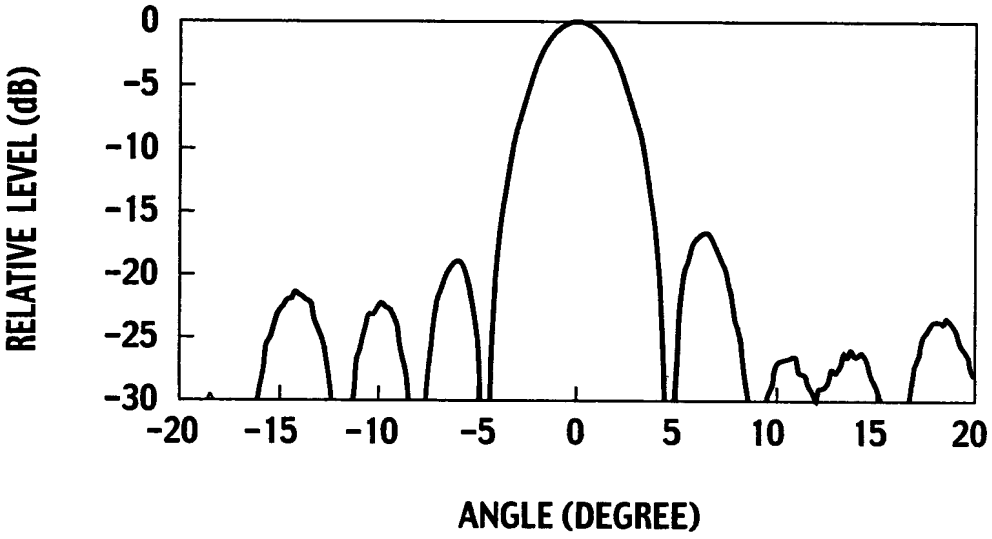

RELATIVE LEVEL (dB)
0
-5
-10
-15
-20
-25
-30
-20
-15
-10
-5
0
5
10
15
20
ANGLE (DEGREE)

FIG.14

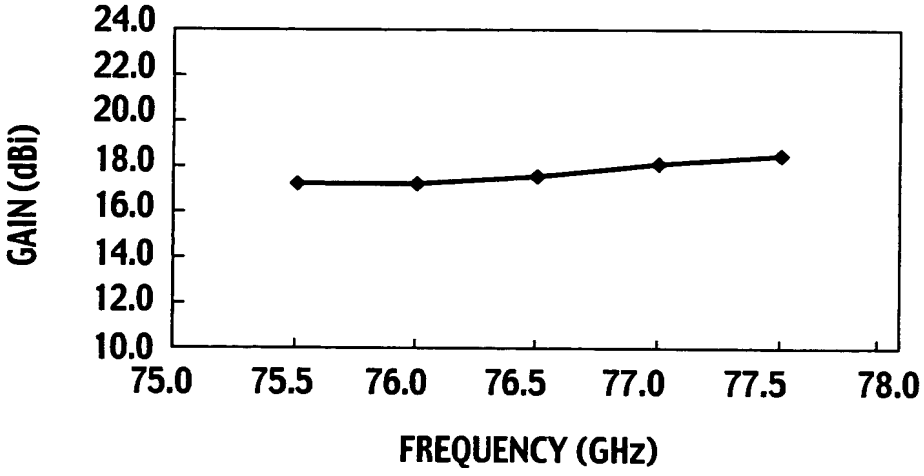

GAIN (dBi)
24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
75.0
75.5
76.0
76.5
77.0
77.5
78.0
FREQUENCY (GHz)

FIG.15

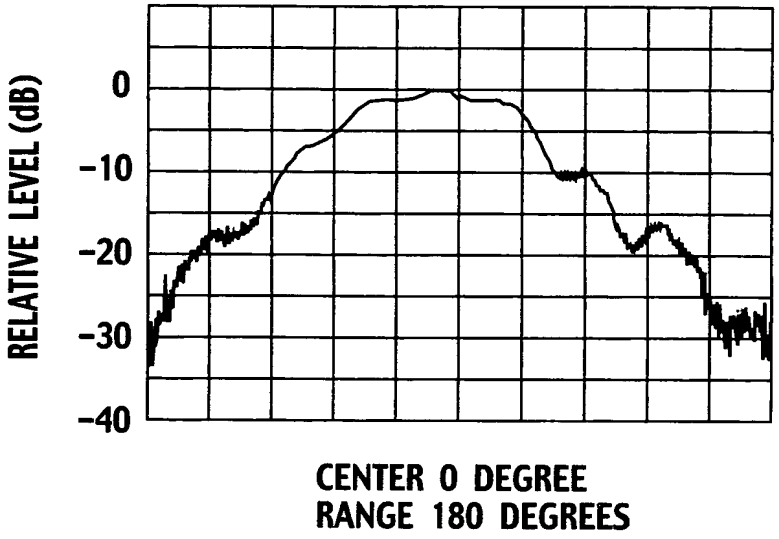

RELATIVE LEVEL (dB)
0
-10
-20
-30
-40
CENTER 0 DEGREE
RANGE 180 DEGREES

FIG.16

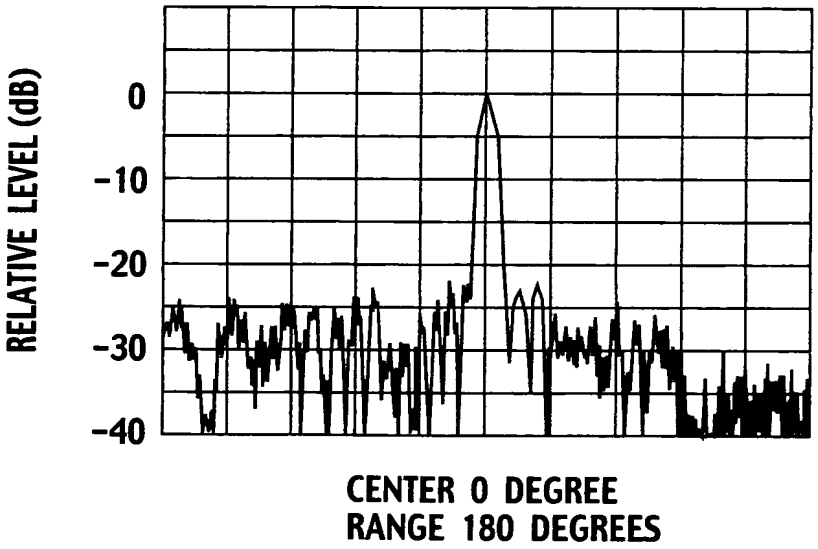

RELATIVE LEVEL (dB)
0
-10
-20
-30
-40
CENTER 0 DEGREE
RANGE 180 DEGREES

FIG.17

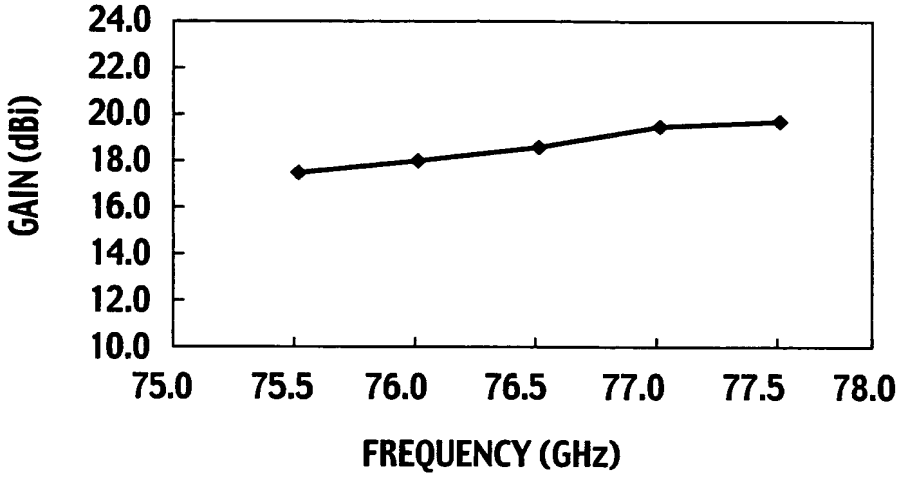

24.0
22.0
20.0
18.0
16.0
14.0
12.0
10.0
GAIN (dBi)
75.0
75.5
76.0
76.5
77.0
77.5
78.0
FREQUENCY (GHz)

FIG.18

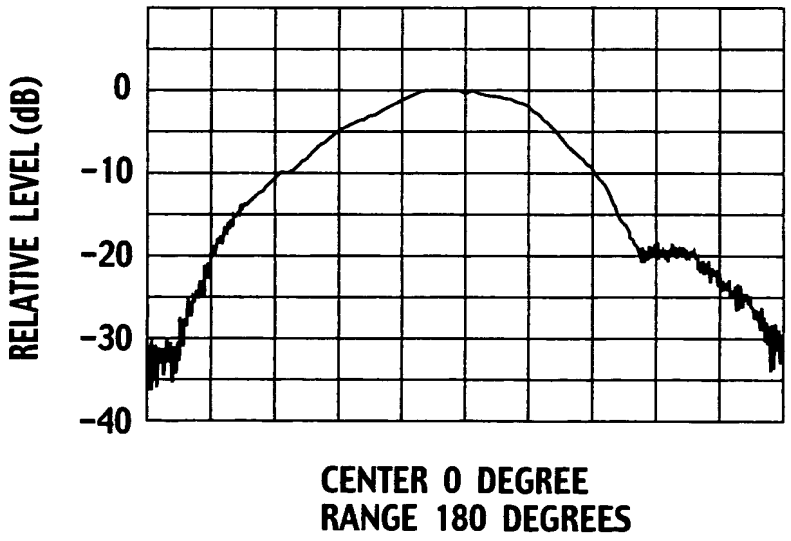
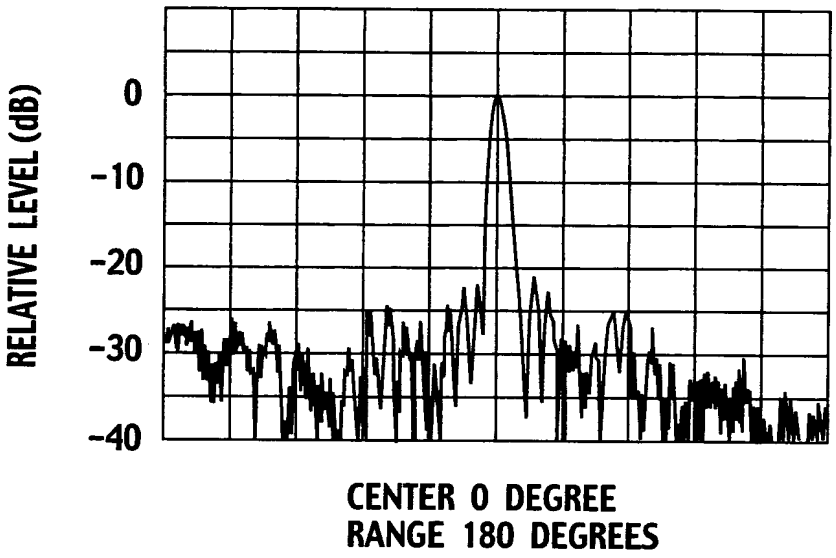

0
-10
-20
-30
-40
RELATIVE LEVEL (dB)
CENTER 0 DEGREE
RANGE 180 DEGREES

FIG.19


RELATIVE LEVEL (dB)
0
-10
-20
-30
-40
CENTER 0 DEGREE
RANGE 180 DEGREES